

THE GENUS *PALAFOXIA* IN TEXAS

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My No. 31195, which I had labeled as *Palafoxia linearis* Lag., was determined tentatively by Dr. Blake as being *Othake macrolepis* Rydb. I know he was right in finding it not to be *P. linearis*, and my subsequent study of the material convinces me that he also was correct in using the interrogation mark after the *O. macrolepis*. Upon my request and in connection with a summary of my study of this material, Dr. Blake has made a further examination of the material and has reported that it seems to represent a valid new species.

PALAFOXIA riograndensis, new species. Plant annual; stems 3–4.5 dm. high, up to 5 mm. broad at base, strigose and hispid throughout, branched at base and above, the branchlets hispid and densely glandular, especially above; leaves linear, up to 5 cm. long and 3 mm. broad, petiolate, strongly hispid; petioles slender, 1 cm. long or less; peduncles slender, densely glandular, up to 6 cm. long, the shorter ones usually more than 2 cm. long; involucre narrowly turbinate-campanulate, about 1 cm. long and 0.5 cm. broad; involucral bracts in a single series, 4–6, usually 5, each closely embracing an outer achene, linear, hispid and glandular, 9–10 mm. long, with rose-colored tips; ray-flowers wanting; disk-flowers twice as many as there are involucral bracts, 5.5–6.5 mm. long, the corolla cleft nearly to the slender tube which is 2–2.5 mm. long, the lobes linear; achenes tapering downwards, 8–10 mm., usually about 9 mm. long, 0.7–0.9 mm. broad at apex, the inner and outer ones markedly different; outer achenes glabrate to sparsely strigose, epappose, or pappus minute, to 2–3 mm. long, or frequently cup-like with 4 very short lobes, usually less than 0.5 mm. long, not at all scarious; inner achenes densely pubescent, with 4 squamellae about 6 mm. long with strongly excurrent midrib and scarious margins.¹

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¹ *PALAFOXIA riograndensis* sp. nov. Annua strigosa hispida 3–4.5 dm. alta caule basi 5 mm. diam. ramosa, ramuli hispidi glandulosi. Folia linearia ad 5 cm. longa 3 mm. lata hispida petiolata, petiolis gracilibus 1 cm. longis vel brevioribus. Pedunculi graciles dense glandulosi ad 6 cm. longi (plerumque ultra 2 cm.). Involucra anguste turbinate-campanulata ca. 1 mm. longa 0.5 cm. lata. Phyllarii uniseriales 4–6 (plerumque 5) achaenia exteriora amplexantes lineares hispidi glandulosi 9–10 mm. longi apice rosei. Corollae ligulatae desunt; disci corollae ca. 10, 5–6.5 mm. longae profunde lineari-lobatae fere ad tubum gracilem 2–2.5 mm. longum. Achaenia basi angustata ca. 9 mm. longa apice 0.7–0.9 mm. diam. interiora ab exterioribus perspicue differentia, exteriora glabrata vel parce strigosa epapposa aut pappum minutum ad 2–3 mm. longum aut brevissime quadrilobatum ad 0.5 mm. longum nec scariosum gerentia; interiora dense pubera squamellas 4 ad 6 mm. longas costa excurrente marginibus scariosis gerentia.

TYPE specimen is designated as No. 31195, which is deposited at the Gray Herbarium, and isotype material is deposited at other herbaria. This collection was made on October 26, 1938, in a flat wash near the Rio Grande about three and one-half miles southeast of Presidio in Presidio County, Texas. We have seen this plant nowhere else, but it is assumed to grow elsewhere along the Rio Grande in the Big Bend Area of Texas, and in strong probability to occur more widely and in greater abundance across the river in Mexico. It seems fitting to associate the species in name with the river along which it grows.

Othake macrolepis Rydb., a species occurring 550 or more air-line miles north-northeast in Bent County, Colorado, has been reported from Texas: *Demaree* 7723, three miles north of Lubbock, May 27, 1930. Lubbock is approximately 325 miles from Presidio and only about one hundred twenty-five miles from the Colorado locality. I have not seen Mr. Demaree's specimen, but I presume it is well authenticated. In *O. macrolepis* the heads are said to be short-pedunculate, whereas in *P. riograndensis* they are relatively long-pedunculate. Among other differences between these two species ours has much narrower leaves (ca. 3 mm. vs. ca. 8 mm.), a lesser number of involucral bracts (5 vs. 8–12), shorter corolla-tube (2–2.5 mm. vs. 5 mm.), longer achenes (9 mm. vs. 7 mm.) and fewer squamellae (4 vs. 6–8).

The pappus of the new species is more nearly that of *Palafoxia linearis* than that of *Othake macrolepis*, and one well-known botanist did as I did by referring my material to *Palafoxia linearis* largely through this character. It would seem that this linking of two species, which some botanists consider as being of different genera, would be good support for placing these three species in a single genus, and this necessarily would be *Palafoxia*. In treating the Rio Grande species in this manner, it seems well to propose new combinations for those species known from Texas hitherto as being of the genus *Polypteris* and *Othake*.

Recently I have examined the publication, *A MONOGRAPHIC STUDY OF THE GENUS PALAFOXIA AND ITS IMMEDIATE ALLIES* by Elizabeth Ammerman Baltzer in which the treatment given is substantially that of Rydberg in the *NORTH AMERICAN FLORA*. The author did not have Demaree's plant from Lubbock, nor did she have my plant from Presidio.

In my opinion she is right in considering *Othake robustum* Rydb. as being a variety of *O. roseum* Bush, but I do not agree with her in placing *O. macrolepis* Rydb. as a variety of *O. texanum* (DC.) Bush. From this viewpoint five new combinations for Texan species are required.

PALAFoxia rosea (Bush), new comb. *Othake roseum* Bush in Trans. Acad. Sci. St. Louis **14**: 175, 1904.

PALAFoxia rosea, var. **robusta** (Rydb.), new comb. *Othake robustum* Rydb. in N. Am. Fl. **34**, Pt. 1, 60, 1914.

PALAFoxia macrolepis (Rydb.), new comb. *Othake macrolepis* Rydb. in Bull. Torr. Bot. Club. **37**: 332. 1910.

PALAFoxia Reverchonii (Bush), new comb. *Othake Reverchonii* Bush in Trans. Acad. Sci. St. Louis **14**: 180. 1904.

PALAFoxia sphacelata (Nutt. ex Torr.), new comb. *Stevia sphacelata* Nutt. ex. Torr. in Ann. Lyc. N. Y. **2**: 214. 1828.

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THE NORTH AMERICAN REPRESENTATIVES OF *ALISMA PLANTAGO-AQUATICA*.—To one who has long known the two broad-leaved representatives of *Alisma Plantago-aquatica* L. in North America it is a surprise to see growing in Europe the typical plant, for it commonly has lilac or roseate petals (our two plants with them white), while the stamens, ovaries and styles are markedly different from ours. To be sure, the late Professor Gunnar Samuelsson treated our larger-flowered northern plant as a North American subspecies, *A. Plantago-aquatica*, subsp. *brevipes* (Greene) Samuelsson in Arkiv för Bot. xxiv^A, no. 7: 19 (1932), based upon *A. brevipes* Greene, Pittonia, iv. 158 (1900). When we compare the latter plant (which occurs across North America, from Quebec to British Columbia, south to Nova Scotia, New England, Maryland, Michigan, Iowa, Nebraska, New Mexico, Arizona and northern Mexico) with true Old World *A. Plantago-aquatica*, surprisingly definite characters are found to separate them. These are concisely stated below: